

Alcatel-Lucent 7710 SR DS1/E1 ATM IMA CMA COMPACT MEDIA ADAPTER

As a leader in convergence solutions, Alcatel-Lucent expands its rich portfolio with a cost-optimized Compact Media Adapter (CMA) for targeted applications. The DS1/E1 Asynchronous Transfer Mode (ATM) Inverse Multiplexing over ATM (IMA) CMA is purpose-built to enable mobile cell-site backhuls and corporate branch offices to integrate data into a traditional Time Division Multiplexing (TDM) infrastructure.



The DS1/E1 ATM IMA CMA is supported on the Alcatel-Lucent 7710 Service Router (SR-c4) and the 7710 SR-c12. The Alcatel-Lucent ATM IMA CMA is a hot-swappable, quarter-slot module with 8-port DS1/E1 over integrated RJ-48c interfaces, each capable of delivering wire-speed performance.

Purpose-built to extend the success of Alcatel-Lucent 7710 SR at the carrier network edge, the ATM IMA CMA is optimized for cost and density, while ensuring standards compliance, service richness and service assurance common to all Alcatel-Lucent Service Router Operating System (SR OS) platforms. The ATM IMA CMA enables simultaneous service layer applications such as Internet enhanced services (IES), virtual private routed networks (VPRNs), virtual private LAN services (VPLS) and virtual private wire services (VPWS) to run without adverse impact on the performance.

In the frameworks of 2.5 G and 3 G mobile data delivery, ATM is recognized as a transport to deliver IP data services. Using IMA for channel

aggregation, ATM can seamlessly integrate and scale TDM bandwidth for delivery of media-rich data services. The ATM IMA CMA is Alcatel-Lucent's answer to mobile operators intending to take advantage of the well-entrenched TDM infrastructure and gain a competitive advantage with quick and non-disruptive backhaul upgrades to the radio access network (RAN) sites.

Not limited to just mobile applications, the ATM IMA CMA also enables wireline service operators to offer very flexible voice and data service deliveries. Any corporate branch offices within its coverage area can easily subscribe to the Ethernet pay-as-you-go service between 1.5 Mb/s to 16 Mb/s, with 1.5 Mb/s or 2 Mb/s bandwidth increments. Such flexibility and granularity were previously unavailable with TDM-based service. When coupled with stringent ATM quality of service (QoS), the ATM IMA CMA enables wireline service operators to broaden the reach of their business services.

Service Router DS1/E1 ATM IMA CMA Feature Details

IMA options include:

- $n \times$ T1/E1 ATM IMA version 1.1
- 1 to 8 member links per bundle

High-availability options include:

- IMA bundle and state configuration
- Non-stop service (NSS) for IES and VPRN
- NSS for VPLS and VPWS

Alcatel-Lucent 7710 Service Router (SR) Family

The Alcatel-Lucent Service Router (SR) family includes the 7710 SR and the 7750 SR. Both are purpose-built IP multiservice edge routers, targeted for service providers, cable multiservice operators (MSOs) and enterprise customers committed to delivering a new wave of triple play, premium business virtual private network (VPN) and multimedia mobile services. Deployed worldwide in over 190 customers, the Alcatel-Lucent SR has become the platform of choice for network transformations and convergence of services over a single IP/MPLS network.

For locations requiring compact form factor and high-density TDM aggregations, such as smaller point of presence sites (POPs), collocation sites and mobile RANs, Alcatel-Lucent offers the 7710 SR. By leveraging the same software and hardware design philosophy as the 7750 SR, the 7710 SR delivers cross-platform consistencies and packet efficiency to the outer parameter of a carrier's networks.

The Alcatel-Lucent 7710 SR is available in two chassis sizes: 4-slot and 12-slot. With slots designed to accept CMAs and selective Media Dependent Adapters (MDAs), the 7710 SR-c4 can support up to four CMAs, and the 7710 SR-c12 up to eight CMAs. Each CMA has a 1.5-Gb/s full-duplex connection to the Control and Forwarding Module (CFM). With cost-optimization built into every CMA, operators can right-size a 7710 SR for a very specific deployment.

Features of the Alcatel-Lucent SR OS

In addition to the highlighted ATM IMA features, the 7710 SR supports the full scope of the Alcatel-Lucent SR OS feature set, including:

- Flexible, high-performance services:
 - VPLS
 - Border Gateway Protocol (BGP)/ Multiprotocol Label Switching (MPLS) VPN (based on RFC 4364)
 - Dedicated Internet access services
 - Ethernet, Frame Relay and ATM VPWS
- High-performance IP and MPLS tunneling
- Rich MPLS multiservice transit capabilities
- Flexible Fast Path technology, providing packet processing
- Thousands of configurable ingress/ egress access control lists (ACLs)
- Scalable BGP, Open Shortest Path First (OSPF) and Intermediate System-to-Intermediate System (IS-IS) routing with traffic-engineering extensions
- Per-service hierarchical QoS (H-QoS)
- Granular, per-service accounting and billing
- Extensive operations, administration and maintenance (OAM) tools for service-aware troubleshooting and faster service activation

Table 1. Alcatel-Lucent 7710 SR CMA Compatibility Matrix

PART NUMBER	DESCRIPTION	INTERFACE TYPE	APPLICABLE IN 7710 SR
3HE02186AA	8 Port DS1/E1 ATM	RJ-48c	√

Technical Specifications

Physical Specifications

Dimensions

- Height: 4.83 cm (1.9 in.)
- Width: 9.78 cm (3.85 in.)
- Depth: 29.85 cm (11.75 in.)
- Weight: 0.408 kg (0.9 lb)

Environmental Specifications

- Operating temperature: 0 C to 40 C (32 F to 104 F)
- Relative humidity: 15% to 85% (non-condensing)
- Altitude: 1,800 m (5,906 ft)

Regulatory Agency Standards

- Safety: EN 60950-1; IEC 60950-1; EN 60825-1& 2; UL 60950-1; CSA 60950-1; AS/NZS 60950-1
- EMC: EN300 386; EN55022; EN55024; FCC Part15 Class A;
- IC ICES-003 Class A; AS/NZS CISPR22
- Telecom: ACTA TIA-968-A (USA); IC CS-03 (Canada); AS/NZS S016:2001 (Australia)
- Regulatory markings: CE Mark (Europe); WEEE (Europe); A-Tick (Australia)